AMENDMENT TO THE CLAIMS

1. (currently amended): A method of forming a narrow writer pole of a write element, the method comprising steps of:

(a) forming a non-magnetic layer;

(b) forming a writer pole portion on the non-magnetic layer having first and second side walls which define a width of a magnetically active region, the width of the magnetically active region defining a track width of the write element; and

(c) implanting an element having an atomic weight of less than or approximately equal to that of Argon (Ar) into the first side wall to thereby transform~~ing~~ the first side wall into a magnetically dead side wall ~~thereby~~ and reduce ~~reducing~~ the width of the magnetically active region and the track width of the write element by a thickness of the magnetically dead first side wall.

2. (withdrawn): The method of claim 1, including a step (d) of transforming the second side wall into a magnetically dead side wall further reducing the width of the magnetically active region and the track width of the write element by a thickness of the magnetically dead second side wall.

3. (original): The method of claim 1, wherein the forming step (b) is performed in accordance with at least one process selected from a group consisting of sputter deposition, photolithography, etching, milling, and electroplating.

4. (currently amended): The method of claim 1, wherein the ~~transforming~~ implanting step (c) is performed in accordance with

at least one process selected from a group consisting of irradiation and ion implantation.

5. (currently amended): The method of claim ~~4~~1, wherein ~~an~~ the element ~~used in ion implantation~~ is selected from a group consisting of nitrogen, argon, boron, and phosphorous~~, and gallium~~.

6. (withdrawn): The method of claim 2, wherein the transforming steps (c) and (d) are performed in accordance with at least one process selected from a group consisting of irradiation and ion implantation.

7. (withdrawn): The method of claim 6, wherein an element used in ion implantation is selected from a group consisting of nitrogen, argon, boron, phosphorous, and gallium.

8. (original): The method of claim 1, wherein the forming step (b) includes:

(b)(1) forming photoresist dams on the non-magnetic layer;

(b)(2) forming the writer pole portion between the photoresist dams; and

(b)(3) removing the photoresist dams.

9. (original): The method of claim 1, wherein the writer pole is either a top pole or a bottom pole of the write element.

10. (withdrawn): A write element comprising:

a return pole;

a writer gap layer adjacent the return pole; and

a writer pole separated from the return pole by the writer gap layer and having a width and a magnetically active

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region adjoining a first magnetically dead side wall;

wherein the magnetically active region defines a width of the write element, which is less than a width of the writer pole.

11. (withdrawn): The write element of claim 10, including a second magnetically dead side wall opposite the first magnetically dead side wall and having a thickness, whereby the width of the write element is the width of the writer pole less the thicknesses of the first and second magnetically dead side walls.

12. (withdrawn): The write element of claim 10, wherein the first magnetically dead side wall is formed of a magnetic material implanted with an element selected from a group consisting of nitrogen, argon, boron, phosphorous, and gallium.

13. (withdrawn): The write element of claim 11, wherein the first and second magnetically dead side walls are formed of a magnetic material implanted with an element selected from a group consisting of nitrogen, argon, boron, phosphorous, and gallium.

14. (withdrawn): The write element of claim 10, wherein the writer pole is either a bottom pole or a top pole.

15. (withdrawn): A disc drive storage system including the write element of claim 10.

16. (withdrawn): A write element comprising:

a writer gap layer formed adjacent a return pole;

a writer pole formed adjacent the writer gap layer opposite the return pole and having an active region whose width defines a width of the write element; and

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an active region reducing means for reducing the width of the active region without reducing a width of the writer pole.

17. (withdrawn): The write element of claim 16, wherein the active region reducing means includes at least one magnetically dead side wall adjoining the active region.

18. (withdrawn): The write element of claim 17, wherein the magnetically dead side wall is formed of a magnetic material implanted with an element selected from a group consisting of nitrogen, argon, boron, phosphorous, and gallium.

19. (withdrawn): A disc drive storage system including the write element of claim 16.

20. (previously presented): A method of forming a writer pole of a write element, the method comprising:

a) forming a non-magnetic layer;

b) forming a writer pole portion on the non-magnetic layer, the writer pole portion having first and second side walls that define a width of the writer pole portion and an initial width of a magnetically active region; and

c) reducing the initial width of the magnetically active region without reducing the width of the writer pole portion.

21. (currently amended): The method of claim 20, wherein the reducing step c) includes <u>implanting an element having an atomic weight of less than or approximately equal to that of Argon (Ar) into the first side wall to thereby transform</u>~~ing~~ the first side wall into a magnetically dead side wall~~—thereby reducing~~ <u>and</u>

reduce the initial width of the magnetically active region by a thickness of the magnetically dead side wall.

22. (previously presented): The method of claim 21, wherein the reducing step c) is performed in accordance with at least one process selected from the group consisting of irradiation and ion implantation.

23. (currently amended): The method of claim 22, wherein an element used in ion implantation is selected from the group consisting of nitrogen, argon, boron, and phosphorous~~, and gallium~~.

24. (withdrawn): The method of claim 20, wherein the reducing step c) includes transforming the first side wall into a first magnetically dead side wall and transforming the second side wall into a second magnetically dead side wall thereby reducing the initial width of the magnetically active region by a thickness of the first magnetically dead side wall and a thickness of the second magnetically dead side wall.

25. (withdrawn): The method of claim 24, wherein the reducing step c) is performed in accordance with at least one process selected from the group consisting of irradiation and ion implantation.

26. (withdrawn): The method of claim 25, wherein an element used in ion implantation is selected from the group consisting of nitrogen, argon, boron, phosphorous, and gallium.